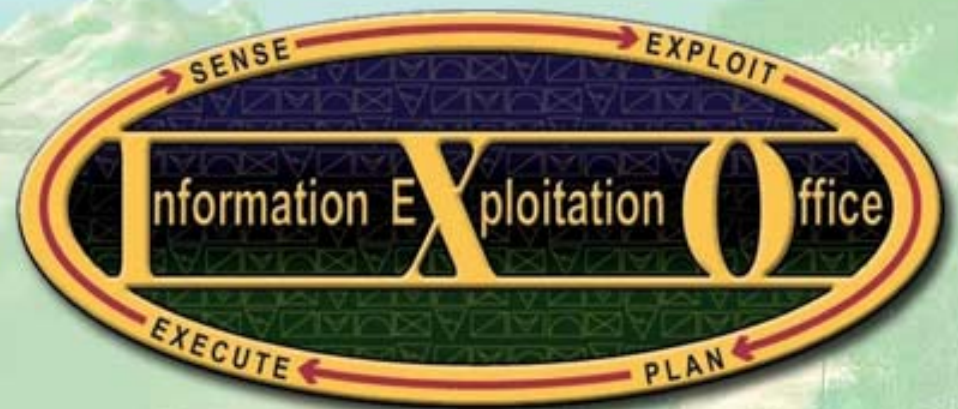




Technology For C4KISR

Meeting C4KISR Requirements: Implementing and Exploiting Technology Solutions



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Some of the New Challenges



Wide Spectrum of Targets



Opponents will take advantage of delays or shortcomings in quick reaction targeting capabilities to shelter their weapon systems

Diverse Battlefields



TERRAIN



COMPLEX

URBANIZED

New Rules of Engagement

- Precise, high-confidence target identification
- Minimal inadvertent collateral damage / undesired effects



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C4KISR Changes Needed



- You can't put at risk or attack specific, ROE-restricted targets if you can't find them
 - Novel sensors for new targets, environments, and functions
 - Sensor exploitation with precision target identification and birth-to-death tracking
- You can't kill mobile targets by "rapid decisive actions" if your command systems are too slow
 - Dynamic command and control
 - Advanced weapon seekers, guidance and communications
- You can't get synergy if you can't share information
 - Integration among information systems
 - Collaboration among people and machines

We need to develop new transformational capabilities
to find, precisely identify, track, attack, and **kill** targets

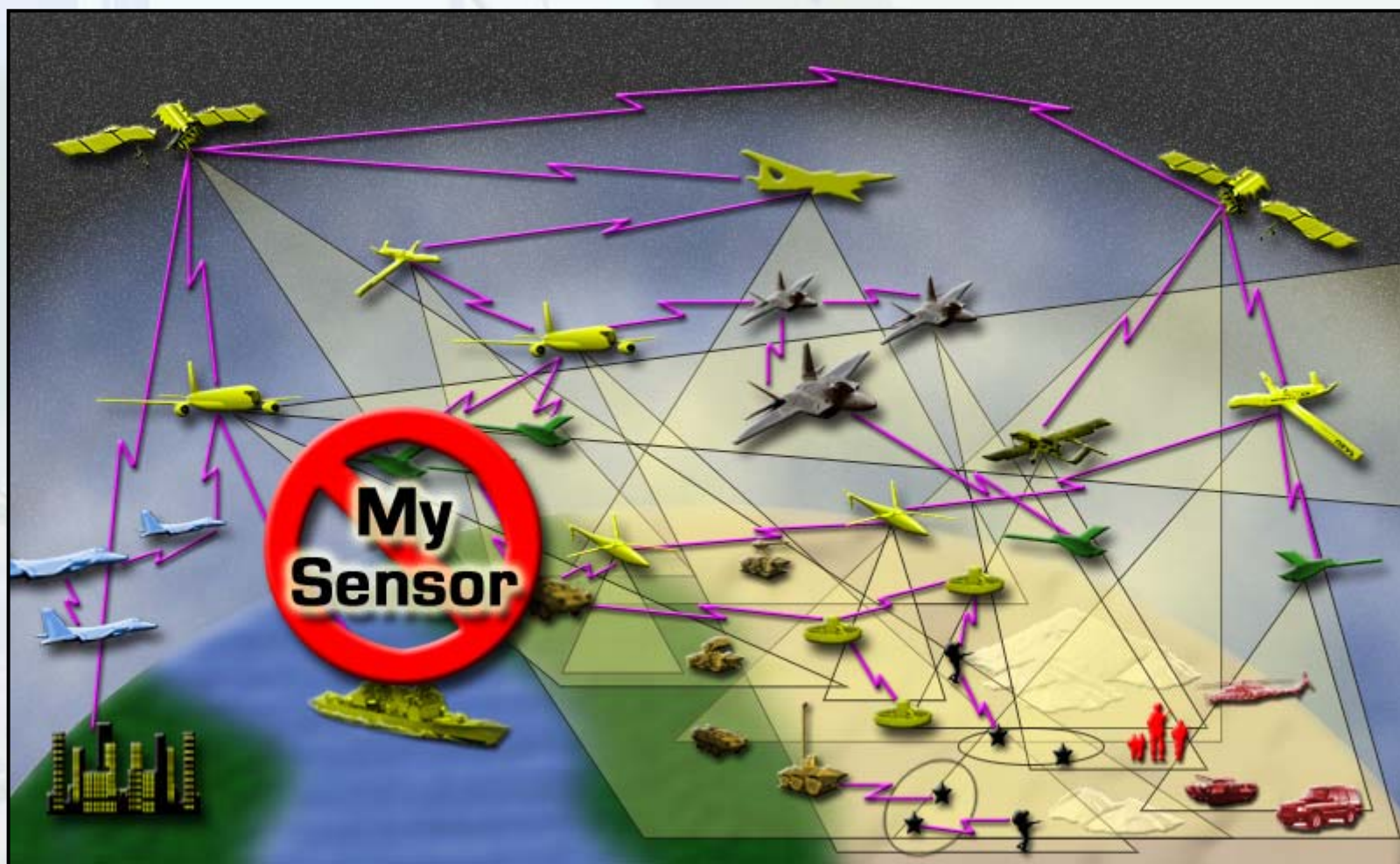
$$\begin{array}{r} \text{C4ISR} \\ + \\ \text{Kill} \\ \hline \text{C4KISR} \end{array}$$



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Slide 3

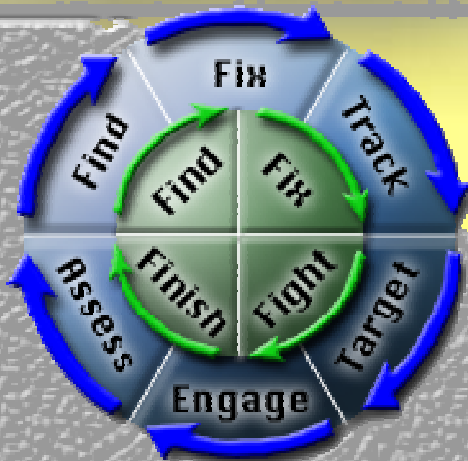
Vision: A Ubiquitous C4KISR Web



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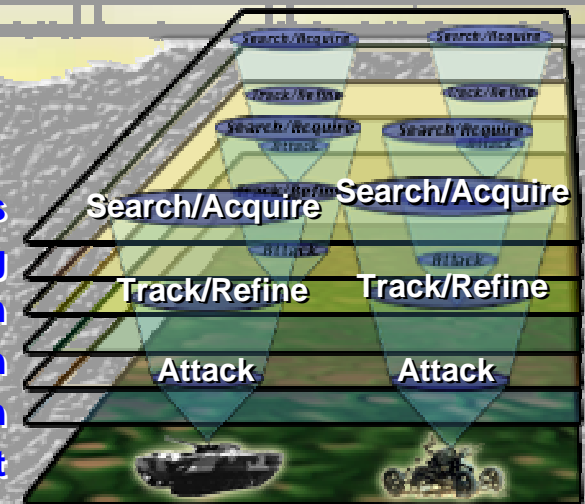
Slide 4

Vision: A C4KISR Paradigm Shift



Current Paradigms

Multiple targets
Distributed sensing
Seamless integration
Precise identification
Actionable information
Continuous assessment
Multiple confirmed kills



New Paradigm

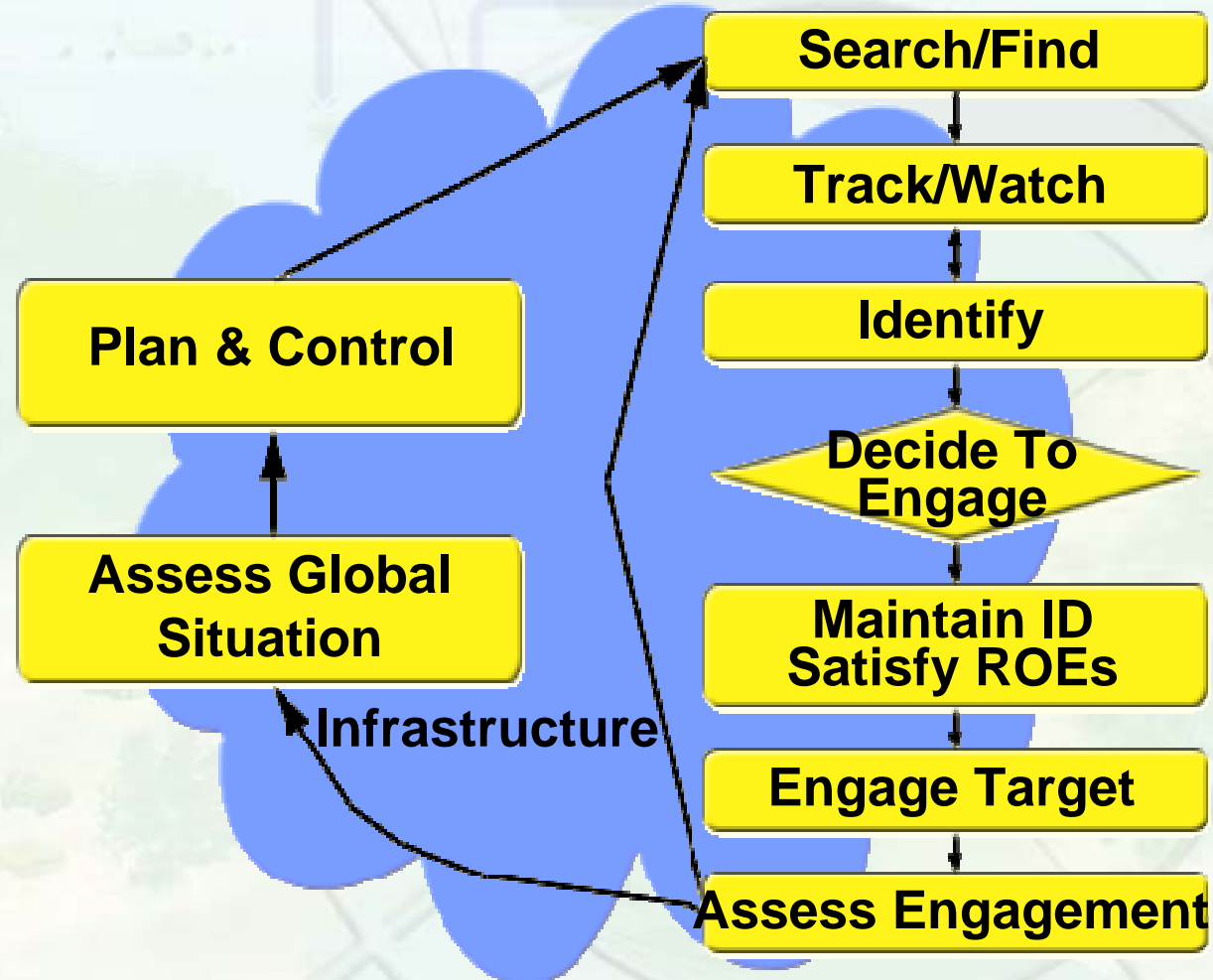
Continuous, dynamic, synchronized, networked, seamless interaction between sensors, exploiters, planners and killers to create virtual sensor to shooter links



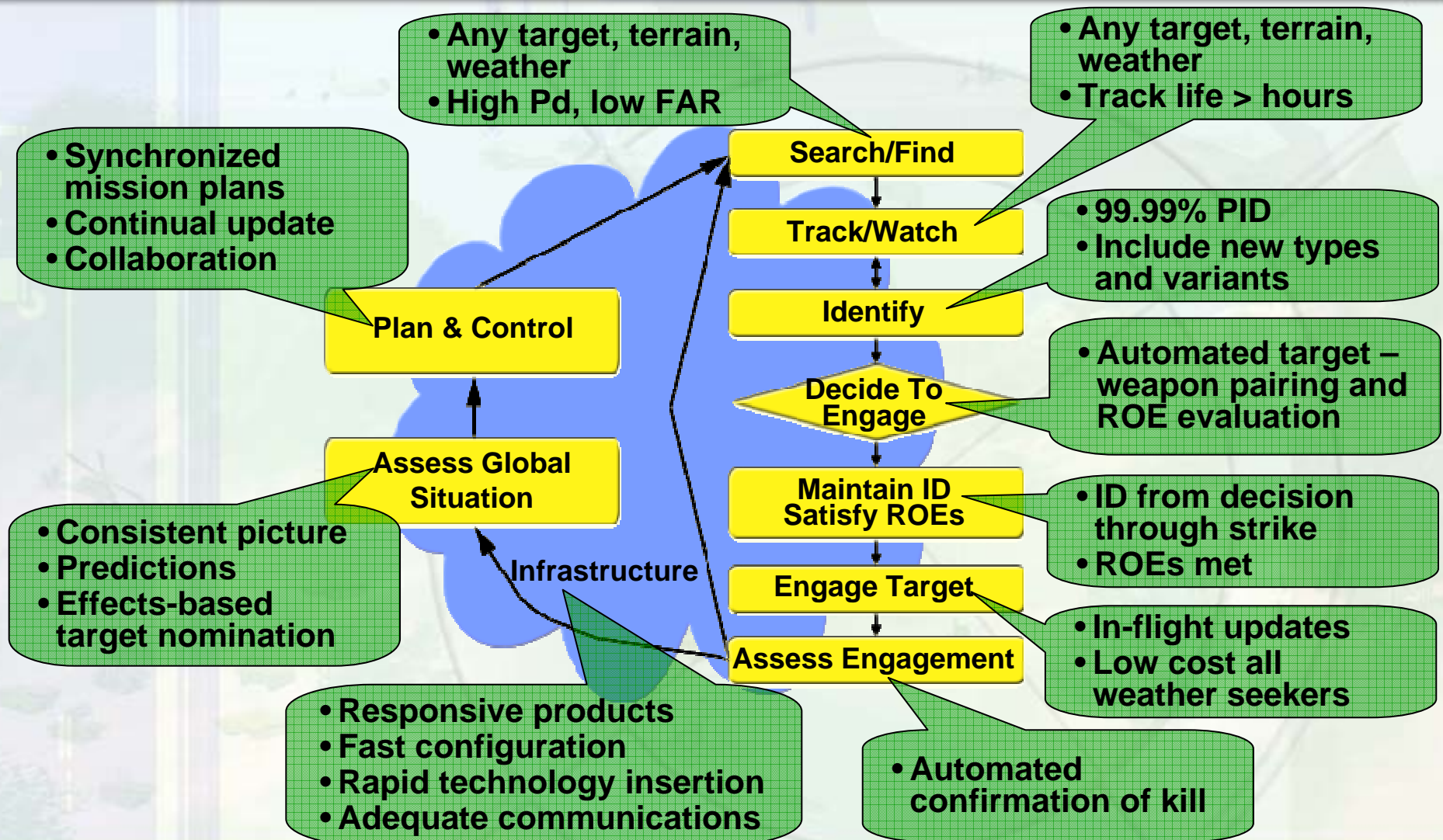
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C4KISR Model



Some Science and Technology Goals



Summary



Mission: Create and transition technology to precisely put at risk, attack, and kill any ground target, anywhere, any time

- **We must adapt and transform C4ISR to counter new threats**
- **We must put the “**Kill**” into C4ISR systems**
- **May require painful paradigm shifts**
 - Networked ISR (sensors and processing)
 - Merging of C2 and ISR
- **DARPA IXO thrusts include:**
 - Find and attack any ground target, anytime on any battlefield
 - With precise identification complying with ROEs
 - Agile and dynamic joint operations
 - Hold dismounts at risk



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